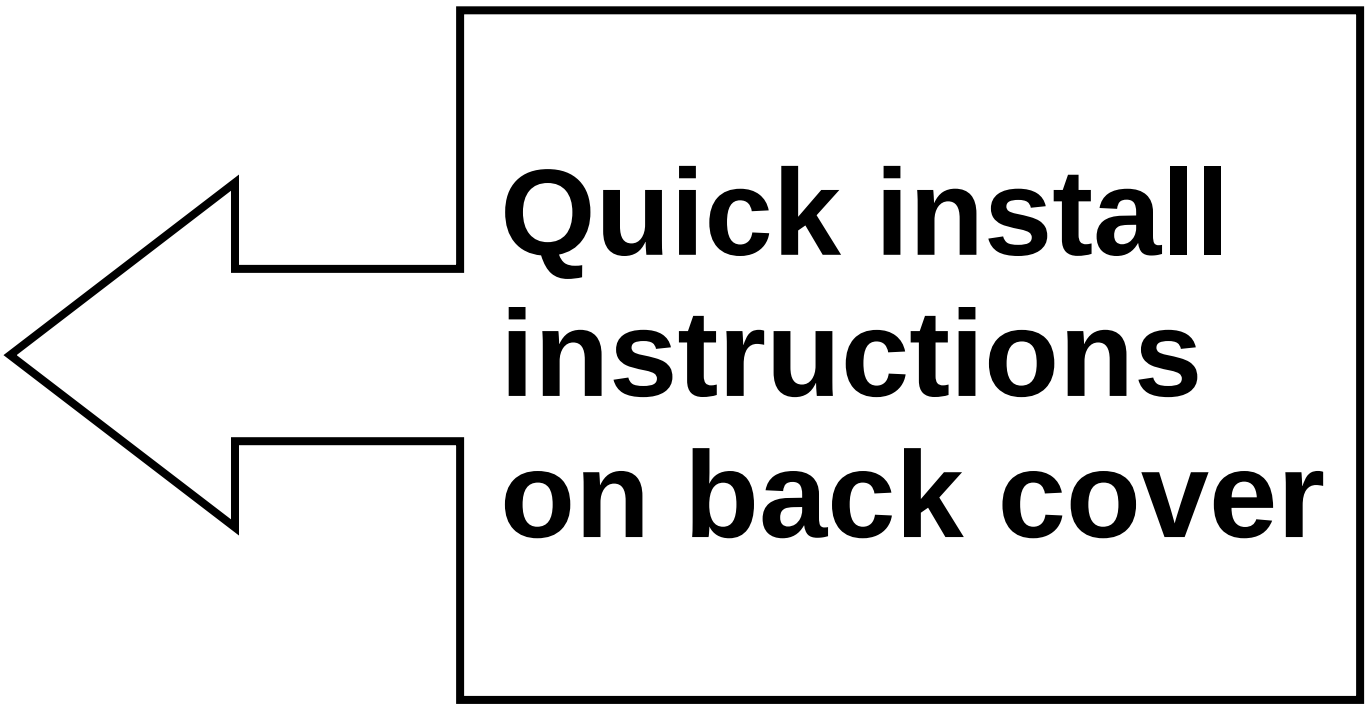
SoundBrick® 1400 DS

INSTALLATION AND OPERATION MANUAL

Dual Outputs,
Same Messages



Please leave this manual with the unit at all times

Important warranty information enclosed

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WHAT IS THE SOUNDBRICK 1400 DS?

The SoundBrick® Model 1400 DS (**D**ual outputs, **S**ame messages) is a solid-state digital audio recording and playback device designed to inject voice messages over a customer-provided background music (BGM) feed for in-store PA broadcasting.

It offers two separate audio output channels, each playing the same set of messages and the same music feed. The primary output channel ("output A") plays messages at a selectable interval of 10, 15, or 20 minutes between messages, while the secondary output channel ("output B") offers much shorter message intervals of 10, 20, 30, 60 or 120 seconds.

In most applications, the output A channel is used for in-store broadcasting while output B is used for message on hold audio or for broadcasting messages outside the store. The 1400 DS is perfect for c-store applications for long message rotations inside the store and shorter message rotations outside the store (at the gas pumps, for instance).

Voice messages load into the SoundBrick's digital memory automatically from your pre-recorded cassette tape. Messages can also be recorded live in the store using the optional handset microphone, providing store personnel the ability to record custom messages whenever needed.

The SoundBrick 1400 DS offers great flexibility in how and when the messages are played. Most commonly, messages are set to play on a timed basis and on-demand play is available from the SoundBrick's keyboard. In addition, message play can be remotely activated by connecting devices such as buttons, switches, or motion sensors to the optional trigger cables.

The SoundBrick 1400 is the most versatile digital player of its kind, with a list of features that includes:

- ✓ Selectable 2, 4, 8, or 16 message capacity
- ✓ 4, 8, 16, 32, or 64 minutes of messages
- ✓ Dual output channels for dual-zone store broadcasting, or single-zone broadcasting plus telephone message on hold.
- ✓ Each channel can have its own volume and message interval
- ✓ Internal motorized CD-style tape drawer
- ✓ Background music (BGM) input, timer, and fader
- ✓ Live message recording with optional handset
- ✓ Continuous, timed, and on-demand message play
- ✓ 16 remote-trigger messages using optional trigger cable(s)
- ✓ Modern plastic case design
- ✓ User-friendly controls and indicators

- ✓ Wall-mountable
- ✓ Flash memory: No battery backup, no message loss due to power outages
- ✓ Selectable 6.5KHz or 11.5KHz bandwidths
- ✓ ADPCM 96dB signal-to-noise ratio for clear, hi-fidelity audio
- ✓ Separate 8Ω and 1KΩ RCA output jacks
- ✓ Built-in 2-watt amplifier

Every SoundBrick is built to exacting quality standards using state-of-the-art SMT (surface mount) assembly for outstanding reliability and years of dependable service. To get the best possible performance from your SoundBrick, ***please take the time to read this manual*** and fully familiarize yourself with how the SoundBrick works before you begin installation.

IMPORTANT NOTE

Two items must be supplied by your messaging provider which are not included with the SoundBrick:

1. A pre-recorded cassette tape containing the voice messages
2. A line-level background music (BGM) source with an RCA-style output jack.

Use the space below to record information about the SoundBrick and about your messaging provider. You will need this information should you require assistance installing or configuring the unit, and when you need new voice messages or background music.

SoundBrick and Messaging Provider Contact Info.

Dealer name:					
Contact person:					
Phone:					
Address:					
Serial number: (11 digits)					
Memory:	**4 Min.**	**8 Min.**	**16 Min.**	**32 Min.**	**64 Min.**

Front Panel

The monitor speaker, tape drawer eject button, and keyboard are located on the front panel.

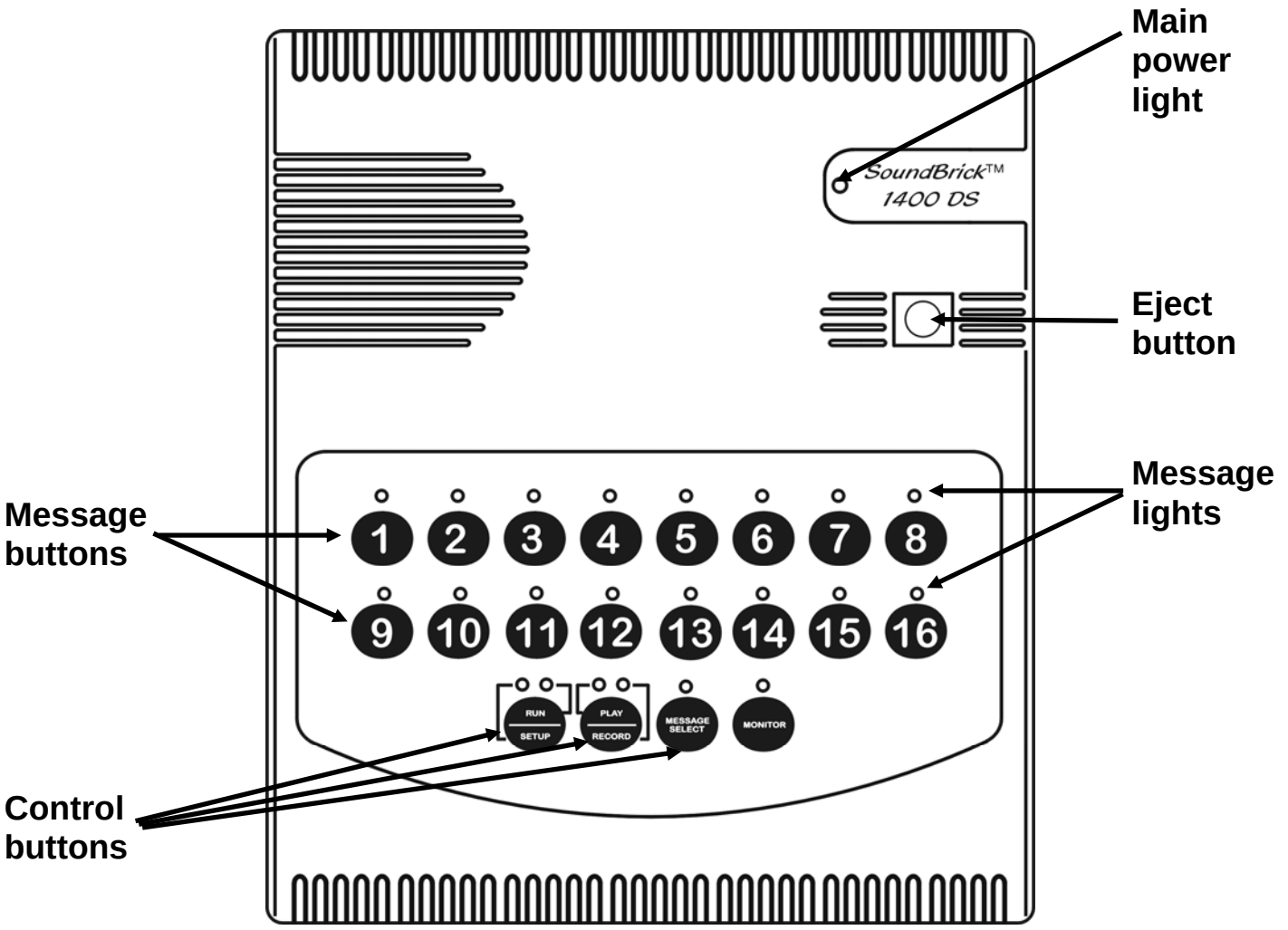


Figure 1 - Front Panel Diagram

NOTE: The keyboard buttons are designed to be pressed using only your fingers. Do not use pens or any other objects, as this may damage the keyboard.

Eject button – Opens and closes the motorized tape drawer for tape loading and removal. Momentarily pushing the motorized tape drawer will also result in a closure.

Message buttons – The message buttons, numbered 1 through 16, are used to specify individual messages when you select/de-select, record, or manually play a message. In normal operation mode, pressing the message buttons does nothing.

Message lights – Located above each message button, the message lights indicate the status of that message.

Run/Setup button – Places the system in either run or setup mode. Run is the normal operating mode (i.e. "running" messages and music). In setup mode, message play stops so you can access the live record, message select, and manual play functions. The current mode is indicated by the lights on top of the button: Run (light on right) or Setup (light on left).

Play/Record button – Selects the play and live record functions. Play is used to manually play a message over the sound system. Record is used to record live messages with the optional handset. Recording can only be performed in Program mode. The current mode is indicated by the lights on top of the button: Play (light on left) or Record (light on right).

Message select button - Lets you select which loaded messages to play (and not play) over the sound system.

Monitor button – Not used on the 1400 DS. The unit does not contain an internal monitor speaker.

Connections Panel

The left side panel is where the connectors are for external equipment including the power supply, background music source, the PA system (and/or phone system) that receives the SoundBrick's output, and the optional handset and external trigger cable(s). Also located here are three volume controls, one to adjust only the background music level, and the other two to adjust each channel's combined BGM and voice message output level.

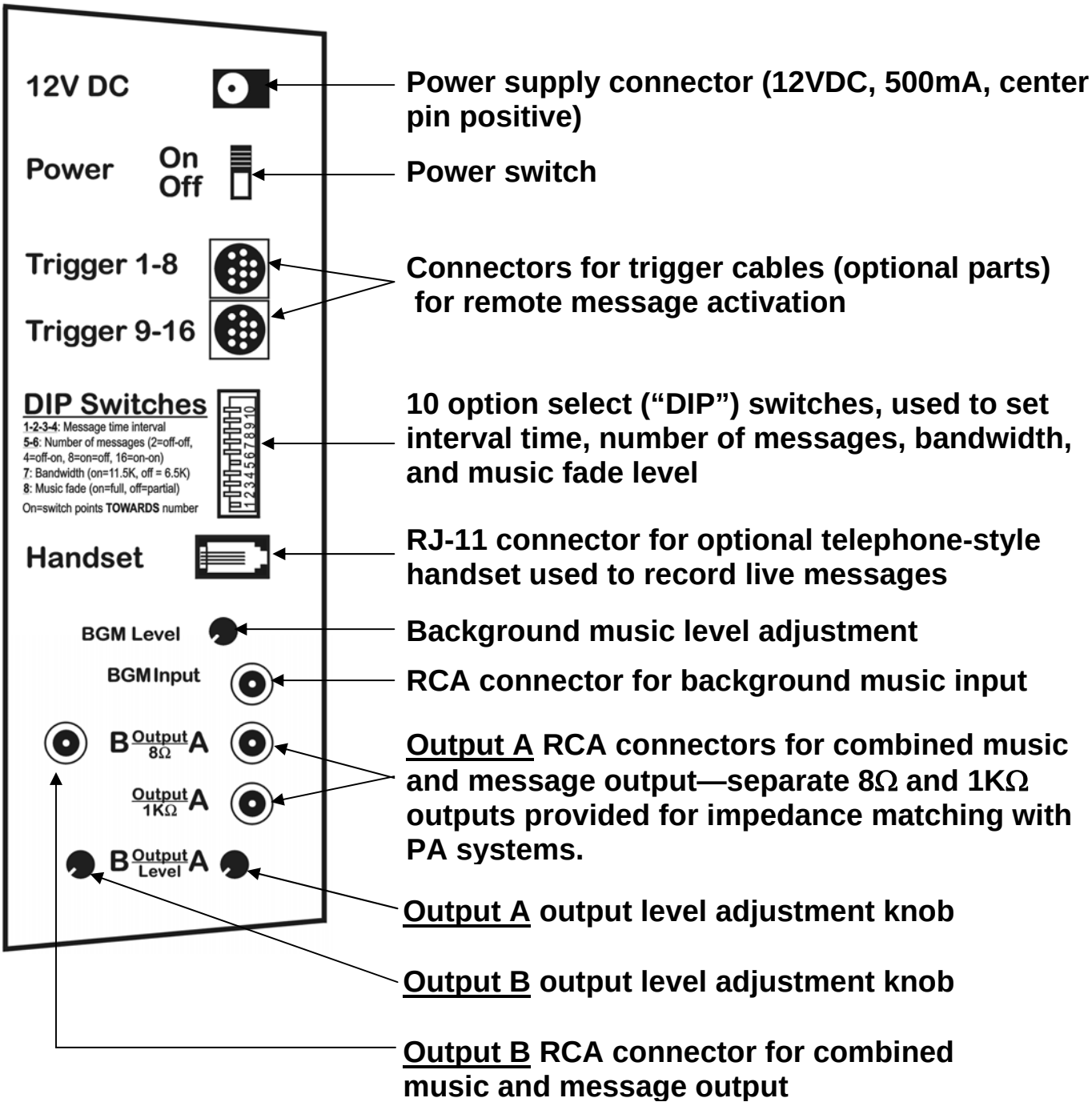

12V DC
Power
On
Off
Trigger 1-8
Trigger 9-16
DIP Switches
1-2-3-4: Message time interval
5-6: Number of messages (2=off-off, 4=off-on, 8=on=off, 16=on-on)
7: Bandwidth (on=11.5K, off = 6.5K)
8: Music fade (on=full, off=partial)
On=switch points TOWARDS number
1 2 3 4 5 6 7 8 9 10
Handset
BGM Level
BGM Input
B Output 8Ω A
Output 1KΩ A
B Output Level A
Power supply connector (12VDC, 500mA, center pin positive)
Power switch
Connectors for trigger cables (optional parts) for remote message activation
10 option select ("DIP") switches, used to set interval time, number of messages, bandwidth, and music fade level
RJ-11 connector for optional telephone-style handset used to record live messages
Background music level adjustment
RCA connector for background music input
Output A RCA connectors for combined music and message output—separate 8Ω and 1KΩ outputs provided for impedance matching with PA systems.
Output A output level adjustment knob
Output B output level adjustment knob
Output B RCA connector for combined music and message output

Figure 2 - Side Panel Diagram

TAPE PREPARATION INSTRUCTIONS

To get the best audio reproduction, it is essential to start with a high-quality recording. In order to load into memory properly, your audio tape program must conform to the following guidelines exactly.

1. Use only **normal bias** (Type I) tapes not exceeding 90 minutes in capacity.
2. **Do not** use high bias, chrome, or metal tapes.
3. **Do not** use DOLBY® or any other noise reduction system.
4. Record your production in 2-channel mono. The audio level should average 0dB while peaking no hotter than +6dB.
5. Start the first message no later than 20 seconds from the beginning of the tape.
6. Leave 15 seconds of silence between messages.
7. Messages cannot have embedded passages averaging less than -25dB for longer than 5 seconds, because the unit interprets this as silence, signifying a break between messages or the end of the load.

MESSAGE LENGTH TABLES

Message length is determined by three factors: the memory size of your unit, the bandwidth setting, and the number of messages setting. It is very important that no message on your tape is longer than this time, because during tape load the message will spill into the next message slot, resulting in cut off, split, and/or missing messages upon playback.

Refer to the following tables to find your maximum message length. Use Table 1 for 6.5KHz bandwidth or Table 2 for 11.5KHz bandwidth.

Number of Messages	Memory Equipped				
	4 min.	8 min.	16 min.	32 min.	64 min.
2	2 min.	4 min.	8 min.	16 min.	32 min.
4	1 min.	2 min.	4 min.	8 min.	16 min.
8	30 sec.	1 min.	2 min.	4 min.	8 min.
16	14 sec.	30 sec.	1 min.	2 min.	4 min.

Table 1 - Message Length @ 6.5KHz Bandwidth

Number of Messages	Memory Equipped				
	4 min.	8 min.	16 min.	32 min.	64 min.
2	1 min.	2 min.	4 min.	8 min.	16 min.
4	30 sec.	1 min.	2 min.	4 min.	8 min.
8	15 sec.	30 sec.	1 min.	2 min.	4 min.
16	7 sec.	15 sec.	30 sec.	1 min.	2 min.

Table 2 - Message Length @ 11.5KHz Bandwidth

Step 1 – Set the option switches

Set the option select "DIP" switches to match your requirements for time interval, number of messages, bandwidth, and fade level.

Switch	Option	On	Off
1, 2, 3, 4	Time interval	*See Table 4*	
5, 6	No. of messages	*See Table 5*	
7	Bandwidth	11.5 KHz	6.5 KHz
8	Fade level	Partial	Full
9, 10	Not used		

Table 3 - Option Select Switches

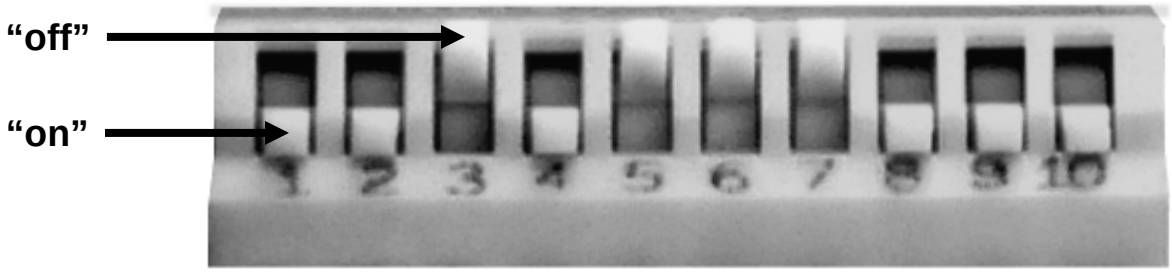


Figure 3 - Option Select Switches

This picture is for illustrative purposes only.
Your actual switch settings will vary.

A switch is "on" when it is pointing **TOWARDS** the switch numbers and "off" when it is pointed **AWAY FROM** the switch numbers. In the example above, switches 1, 2, 4, 8, 9, and 10 are "on" while switches 3, 5, 6, and 7 are "off."

IMPORTANT NOTE: Switch settings are only read at the moment the power switch is turned on. Therefore, any changes made do not take effect until power is recycled (turn the unit off, wait 10 seconds, then turn it back on).

IMPORTANT NOTE: If you change the bandwidth and/or number of messages settings, you must recycle power AND reload messages. If there is already a tape inside the unit, turn off power, wait 10 seconds, turn power back on. If there is no tape in the unit, turn power off, wait 10 seconds, turn power back on, press the eject button to open the tape drawer, insert tape, then press the eject button, or momentarily push the draw. The tape drawer will automatically close and the download will begin when the SoundBrick detects the presence of the tape.

Time Interval, Switches 1-2-3-4

Sets how long of a delay occurs between messages in the timed play sequence. There are numerous pre-set intervals from which to choose. During the time interval, only the background music is heard over the sound system.

Note the output B intervals are short and the output A intervals are longer. If you are using one channel for telephone message on hold, use the output B channel. If you have one indoor and one outdoor channel, for instance, one playing inside the convenience store and one playing at the gas pumps, use the output B channel for the outdoor messages.

Time Interval					
Output B	**Output A**	**SW1**	**SW2**	**SW3**	**SW4**
10 sec.	10 min. (5 min.*)	OFF	OFF	OFF	OFF
20 sec.	10 min. (5 min.*)	ON	OFF	OFF	OFF
30 sec.	10 min. (5 min.*)	OFF	ON	OFF	OFF
1 min.	10 min. (5 min.*)	ON	ON	OFF	OFF
2 min.	10 min. (5 min.*)	OFF	OFF	ON	OFF
10 sec.	15 min. (10 min.*)	ON	OFF	ON	OFF
20 sec.	15 min. (10 min.*)	OFF	ON	ON	OFF
30 sec.	15 min. (10 min.*)	ON	ON	ON	OFF
1 min.	15 min. (10 min.*)	OFF	OFF	OFF	ON
2 min.	15 min. (10 min.*)	ON	OFF	OFF	ON
10 sec.	20 min. (15 min.*)	OFF	ON	OFF	ON
20 sec.	20 min. (15 min.*)	ON	ON	OFF	ON
30 sec.	20 min. (15 min.*)	OFF	OFF	ON	ON
1 min.	20 min. (15 min.*)	ON	OFF	ON	ON
2 min.	20 min. (15 min.*)	OFF	ON	ON	ON
Invalid-not used		ON	ON	ON	ON

Table 4 - Time Intervals

**** Shorter output A interval is a factory option available on new units only.***

Note: There is a three second BGM Fade Time, before and after message play.

Note: If switch settings are invalid, the Main Power light will flash slowly.

Number of Messages, Switches 5-6

Sets the total number of messages you can load (2, 4, 8, or 16). The available memory is divided evenly into this number of message slots. For example, an 8-minute machine set for 8 messages has 8 slots of 1 minute each (6.5KHz bandwidth), or 8 slots of 30 seconds each (11.5KHz bandwidth).

Number of Messages	SW5	SW6
2	OFF	OFF
4	OFF	ON
8	ON	OFF
16	ON	ON

Table 5 - Number of Messages

Bandwidth, Switch 7

Sets the fidelity of audio messages. The minutes of memory equipped on your unit (4, 8, 16, 32, or 64) is printed on the serial number label on the bottom of the unit, and assumes a bandwidth 6.5KHz. The 11.5KHz bandwidth setting provides better audio quality, but reduces the amount of recording time by one-half (i.e. a 16 minute unit becomes an 8 minute unit).

Fade Level, Switch 8

Sets how far the background music fades when a message plays. Full fade lowers the background music volume 100% so only the message is heard. Partial fade lowers it about 90%, so the music can still be heard softly underneath the message. With either setting, BGM volume is restored to full when the message is over.

Note: There is a three second BGM Fade Time, before and after message play.

Step 2 – Connections

Locate the SoundBrick 1400 DS within 6 feet of a 110VAC outlet. The unit is designed to be placed on a flat, level surface or securely mounted on a wall. Be sure to leave clearance for connections and adjustments.

Important: Devices that emit strong electromagnetic fields such as computer monitors and fluorescent lights may interfere with message loading, so locate the unit at least a few feet away (or farther if necessary) from such devices.

To help protect against power surges and other electrical problems, the use of a quality surge suppressor strip (which is different from a standard multi-outlet power strip) is strongly recommended. Damage caused by power surges, lightning, or other electrical problems are not covered under warranty.

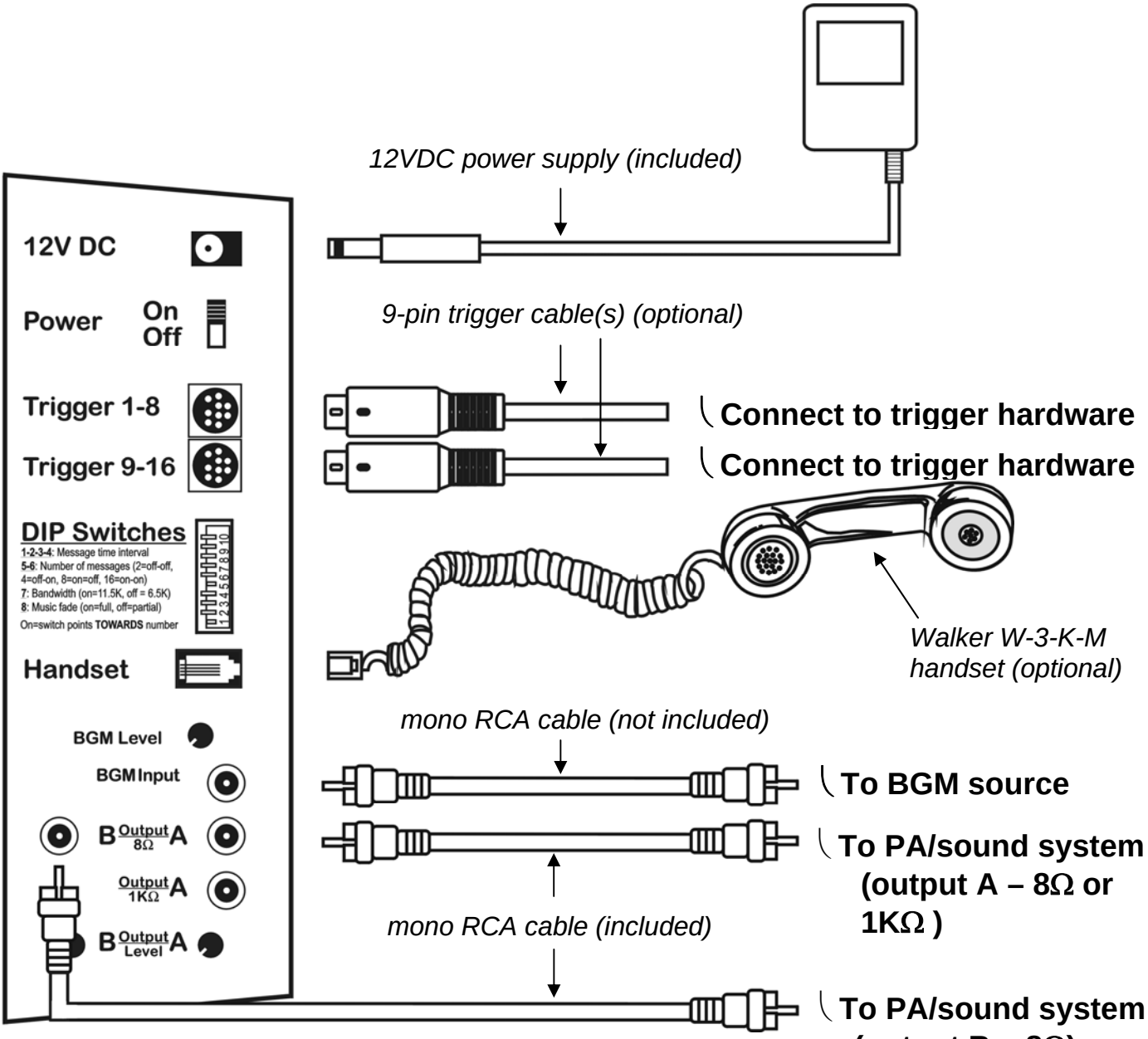


Figure 4 - Installation Diagram

Connection Instructions:

1. Turn the power switch off. Plug the included power supply into a surge-protected 110VAC wall outlet and the 12VDC jack on the SoundBrick. Only use the power pack provided with the unit (12VDC, 500ma, center pin positive). Many power supplies look alike, but provide different output. Using the wrong one will void your warranty and may damage the unit and/or other equipment attached to the SoundBrick.

2. Connect either the 8Ω or 1KΩ output A jack to the PA sound system input using a mono RCA-to-RCA cable (included). If the sound system does not have an RCA-style input, an adapter may be required (not included). Remember, output A has the long time intervals.

3. Connect the 8Ω output B jack to the outdoor channel (if applicable) on the PA/sound system, or to the phone system's message on hold input using a mono RCA-to-RCA cable (included). If the PA or phone system does not have an RCA-style input, an adapter may be required (not included). Remember, output B has the short time intervals.

4. Connect the BGM input jack to your background music source using another mono RCA-to-RCA cable (not included). For proper operation, the background music source should have a low impedance output. If the BGM source does not have an RCA-style output, an adapter may be required (not included).

5. Connect the optional handset to the handset jack if you are using this feature. For proper operation, you must use the Walker model W3-K-M, available from your messaging provider or from Walker Equipment Corporation, 4009 Cloud Springs Road, Ringgold, GA 30736. **Do not** use an ordinary handset from your telephone, as this will result in a weak recording.

6. Connect the optional 9-pin trigger cable(s) to the external trigger jack(s) if you are using this feature.

Step 3 – Load Messages

Messages can be loaded into the SoundBrick 1400 from a cassette tape, the optional handset, or a combination of both.

Be sure you have reviewed the tape preparation instructions on page 9.

NOTE: If you are loading both tape and handset messages, it is important to load the tape first, because all message memory is automatically erased whenever a tape load begins.

Tape Load

Make sure the option select switches for number of messages and bandwidth are set to match the contents of your tape. This is especially important if you are loading a new tape over an existing set of messages, because the new tape might have a different number of messages, or messages of a different length.

Turn the power switch on and press the tape eject button. The motorized tape drawer on the right side of the unit opens like a CD-ROM drive on a computer. Place the tape into the drawer by gently sliding it under the metal retaining clip, then press the eject button, or momentarily push the drawer to close. The SoundBrick detects the presence of the tape, switches itself to setup mode, and begins the load process automatically. **NOTE: Never eject the tape while it is loading.**

During tape load, the lights above the numbered message buttons display the load progress:

Message Light	Status
Slow flash	Next message loads here
Fast flash	Message loading now
On (no flash)	Message finished loading
Off	Message empty

Table 6 - Message Light Indications (Tape Load)

Once the unit detects audio on the tape, it begins loading message #1, and continues until it detects 15 seconds of silence, then starts loading message #2, and so on until either 25 seconds of silence is detected or the number of messages you set have been loaded, whichever comes first. At that point, the tape rewinds and the unit automatically switches to Run mode and begins playing the messages.

If the messages are cut off, split, or missing upon playback, chances are that the tape messages are too long to fit into the message slots, In this case, refer to the message length tables and option select switch information earlier in this manual, or contact your messaging provider to find the proper switch settings for your tape.

<u>Important</u>: It is not necessary to leave the tape in the unit after loading. Since the SoundBrick uses non-volatile Flash memory, messages are not erased during power outages or when the unit is unplugged or turned off. If you do decide to remove the tape, LEAVE IT OUT. Every time you insert a tape with the power switch on, all messages (tape and handset) are erased and the tape load process begins.

Handset Load (Live Record)

After loading the tape, you can record messages using the optional handset. As mentioned earlier, make sure you use the Walker Equipment Corp. model W3-K-M, not an ordinary handset from your phone.

While handset-loaded messages are safe from erasure due to power loss, they **<u>are erased</u>** each time a tape is loaded, and must be recorded again if you want them to play. **<u>Handset messages are not copied to the tape.</u>** Additionally, handset-loaded messages are not automatically added to the timed play sequence. After recording, you must manually add them using message select.

1. Press the Run/Setup button until the Setup light is on.

2. Press the Play/Record button until the Record light is on. The message lights indicate which messages are already loaded (light on) and which are empty (light off).

3. Press the message button that you wish to record. Recording begins as soon as the message light starts flashing (approximately 1 second). During recording, the message light flashes slowly. If it does not, then you have selected a message higher than your number of messages setting and must choose another.

4. When you are finished recording, press the message button again. If you exceed the available message time, recording stops automatically.

To record more messages, follow steps 2-4 above. When you are finished, proceed to message select.

Note: Because there is no Monitor Select, messages <u>can not</u> be reviewed from the handset.

Message Select

Message select lets you add and remove messages from the timed playback sequence. All tape-loaded messages are automatically selected for playback, while handset messages must be selected manually.

1. If the Setup light is not already on, press Run/Setup until it turns on.

2. Press the Message Select button until that light turns on. The message lights indicate the selection status of each message: Light on (selected) or light off (not selected or message empty).

3. Press a message button to change its selection status.

When you are finished, press the Message Select button until the light turns off, then press Run/Setup to return to Run mode.

Step 4 – Adjust Volume

After installation and loading is complete, listen to the SoundBrick 1400's output over each channel separately. Adjust the BGM level and output A & B level knobs on the left side panel as needed.

Timed Message Play

Music and messages play back over your sound system according to how the unit is configured. Selected messages play in numerical order, starting with message #1, at the time interval you set. Output B has short time intervals, output A has long time intervals. Between messages the background music is heard. This timed message play is the typical mode of operation. Triggered messages play when activated (see External Trigger section for details).

Manual Message Play

Manual play messages always play out of output A.

Messages can be played on demand, using the manual message play function. Manual message play is not available if a message is already playing - you must wait until the unit is between messages (i.e. during the time interval).

1. If the Run light is not already on, press Run/Setup until it turns on.

2. Press the Play/Record switch until the Play light is on. Message lights turn on for all loaded messages.

3. Press the message you want to play.

Repeat steps 2 and 3 for each message you want to play. When you are finished, no action is required. The Play light turns off automatically and the unit returns to timed message play where it left off.

Triggered messages always play out of output A.

The external trigger function lets you activate any or all messages remotely by using one or two optional 9-pin trigger cables, available from your messaging provider. An unwired 9-pin DIN plug is also available

One end of the trigger cable plugs into the SoundBrick's connections panel (Trigger 1-8 and/or Trigger 9-16). The other end contains 8 color-coded wire leads and one ground lead. Message play is triggered by shorting a message's lead wire to ground. The table below shows which message is activated by each color wire.

Wire Color (Pin Number)	Trigger 1-8	Trigger 9-16
Brown (1)	1	9
Blue (2)	2	10
Purple (3)	3	11
Red (4)	4	12
Green (5)	5	13
Orange (6)	6	14
Yellow (7)	7	15
White (8)	8	16
Ground-silver (9)		

Message number triggered

Table 7 - External Trigger Pin Numbers and Wire Colors

Triggered messages start immediately if no message is currently playing, or after the current message is finished. Multiple triggers are queued and played back in message number order, which is not necessarily the order triggered. The pin numbers on the unit's trigger jacks are as follows:

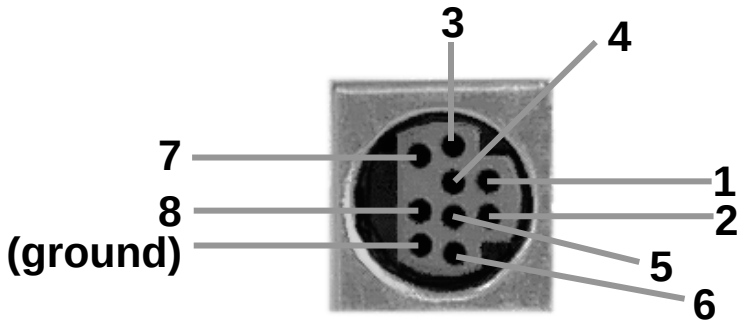


Figure 5 - Trigger Pin Numbers (jacks on side of unit)

Diagnostics information is provided primarily to give dealers a tool to help troubleshoot suspected malfunctions with end users. This section is more complex than the rest of the manual and may be more difficult for inexperienced users. This section is not needed for normal operations.

The diagnostics functions are not needed for installation or message loading. They are provided to display system settings and test hardware components in the event of a suspected malfunction.

Diagnostics mode lets you view current option settings; display the amount of memory equipped; and test the message memory, keyboard and external trigger. Also included is a function to erase all messages.

To enter Diagnostics mode, hold down the Run/Setup button, press the Play/Record button, then release both buttons. The Play and Record lights flash at the same time, indicating the unit is now in Diagnostics mode. The flashing message buttons now represent a menu of diagnostics functions:

1	2	3	4	5	6	7	8
Time Interval	No. of Messages	Bandwidth	Fade Level	Erase Messages			

9	10	11	12	13	14	15	16
Memory Size	Keypad Test	Trigger Test	Memory Test				Exit

Table 8 - Diagnostics Menu

To select a function, press the corresponding message button. When you are finished with a function, press Run/Setup to return to the above menu. To exit Diagnostics mode, press button 16 at the menu.

The first four functions display the settings of the option select switches. These settings can be viewed here, but can only be changed using the option select switches themselves. If the settings displayed here do not match the current switch settings, you will have to recycle power and possibly reload.

Time Interval: The current setting is indicated by which message light is on steady (not flashing) (see table 9). Change using option select switches 1-4.

Message Light	Time Interval Output B	Output A
1	10 sec.	10 min. (5 min.*)
2	20 sec.	10 min. (5 min.*)
3	30 sec.	10 min. (5 min.*)
4	1 min.	10 min. (5 min.*)
5	2 min.	10 min. (5 min.*)
6	10 sec.	15 min. (10 min.*)
7	20 sec.	15 min. (10 min.*)
8	30 sec.	15 min. (10 min.*)
9	1 min.	15 min. (10 min.*)
10	2 min.	15 min. (10 min.*)
11	10 sec.	20 min. (15 min.*)
12	20 sec.	20 min. (15 min.*)
13	30 sec.	20 min. (15 min.*)
14	1 min.	20 min. (15 min.*)
15	2 min.	20 min. (15 min.*)
16	Invalid-not used	

Table 9 - Diagnostic Time Interval

**** Shorter output A interval is a factory option available on new units only.***

Number of Messages: The current setting is indicated by which message light (2, 4, 8, or 16) is on steady (not flashing). Change using Option Select Switches 5-6.

Bandwidth: Message light 1 on steady, not flashing (6.5KHz). Message light 11 on steady, not flashing (11.5KHz). Change using Option Select Switch 7.

Fade Level: Message light 1 flashing plus message light 9 on steady=partial fade. Message light 1 on steady plus message light 9 flashing=(full fade). Change using Option Select Switch 8.

Erase Messages: Erases all messages (tape and handset) in memory.

Memory Size: Displays how much memory the unit has. One message light turns on for each 4 minutes of memory. Multiply the highest number lit by 4:

Button 1 = 4 min. @ 6.5KHz (or 2 min. @ 11.5KHz)
Button 2 = 8 min. @ 6.5KHz (or 4 min. @ 11.5KHz)
Button 4 = 16 min. @ 6.5KHz (or 8 min. @ 11.5KHz)
Button 8 = 32 min. @ 6.5KHz (or 16 min. @ 11.5KHz)
Button 16 = 64 min. @ 6.5KHz (or 32 min. @ 11.5KHz)

Keypad Test: Used to verify that all buttons on the keyboard are working properly. Press any button and that button's light will turn on for as long as the button is held

down. **To return to the menu from this test only, hold down Run/Setup and push Play/Record, then release both buttons.**

Trigger Test: Used to verify your trigger wiring setup. As you activate a trigger, the message light associated with that trigger's **lead** on the trigger cable will flash for as long as the trigger is held.

Memory Test: Used to test message memory. **This function will erase all messages, so use it only before loading.** The test lasts approximately 30 seconds for each 4 minutes of memory. During the test, the lights on the top of the control keys turn on and off in a sequential, racetrack-style pattern. When the test is finished, the Play and Record lights flash together slowly.

Power On Self-Test (POST)

Each time the unit is turned on, an automatic self-test routine commences immediately, lasting only a couple of seconds. During a successful self-test sequence, message lamps 1-4 will light in order, then turn off, and the unit will resume normal operation.

If a failure occurs in any one of the tests, the self-test halts, rendering the unit inoperable. The specific power-on test that failed is indicated by the status of message lights 1-4:

Self-Test Procedure	Failure Indication
Message Memory Test	Message light 1 stays on.
Audio Processor Test	Message lights 1 & 2 stay on.
Audio Processor Program	Message lights 1, 2, & 3 stay on.
Tape Deck Test	Message lights 1, 2, 3, & 4 stay on.

Table 10 - Power on Self-Test Failure Indications

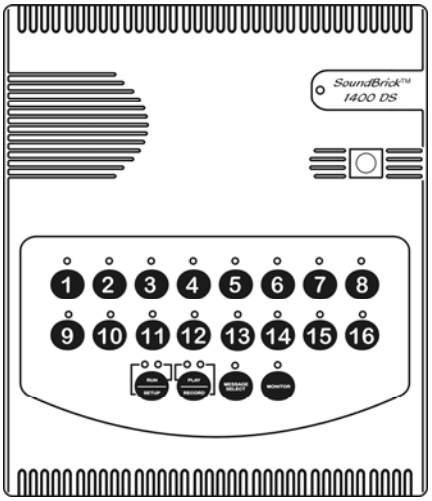
If you experience a POST failure, try turning the unit off, unplugging it and letting it sit for a few minutes. Then, plug it back in and turn it on to see if the failure occurs again. If it does, you will have to return the unit to your dealer for service.

To differentiate between a POST failure and other operating displays, note that only the above indicated message lights will be on (and not the Run, Setup, Play, or Record lights) if a POST test fails. Also, none of the message lights will be flashing.

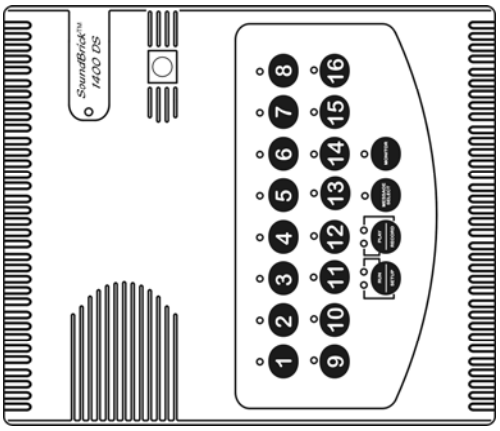
WALL MOUNTING INSTRUCTIONS

Using the screw holes on the back plate as a guide, secure two screws into the wall where you want to mount the unit. Then, hang the unit on the screws.

Consider the weight of the SoundBrick when choosing a mounting wall. Make sure the wall's construction is sufficiently strong to support the weight of the unit securely. Make sure both screws are driven into studs or other sturdy supports, not just into plain drywall.



To mount in this orientation, the distance between the centerpoints of the mounting screws should be **3 11/32".**



To mount in this orientation, the distance between the centerpoints of the mounting screws should be **5 3/8".**

TECHNICAL SPECIFICATIONS

Frequency response	User-selectable 200Hz to 6.5KHz or 11.5KHz
Encoding	16-bit ADPCM
Signal to noise	96 dB (theoretical)
Distortion	<1% THD @ 1KHz, 0dB
Memory type	Non-volatile FLASH
Memory capacity	4, 8, 16, 32, or 64 min. @ 6.5KHz
Number of messages	2, 4, 8, or 16
Message loading	Cassette (normal bias) using built-in tape deck, Handset—Walker W3-K-M (optional), Signal-level source using ProAdapter (optional)
Message playback	Continuous, timed, triggered, and on demand
Power supply	110VAC 60Hz to 12VDC 500mA, center pin positive
Background music input	Mono RCA jack for low-impedance background music source Adjustable volume
Audio output	Mono RCA jack for combined message and music output Adjustable volume
Output A impedance	6.0V p-p @ 8Ω or 12V p-p @ 1KΩ
Output B impedance	6.0V p-p @ 8Ω
Size	8.5" x 7.5" x 3" (H x W x D)
Weight	3.5 pounds (excluding power supply)

TROUBLESHOOTING

If you have trouble installing or operating the SoundBrick 1400, refer to the table below to help find a solution. If you are unable to solve the problem yourself, contact your dealer for further assistance.

Problem or Indication	Possible Cause and Solution
Cut-off, split, or missing messages	Messages too long for configuration – see message length tables. Adjust switch settings (bandwidth, number of messages) and reload tape.
Tape load error (run + setup lights flashing together)	Tape is worn out or not prepared to guidelines – obtain another tape from your messaging provider.
	Possible interference from strong electromagnetic field (i.e. computer monitor or fluorescent lights) – relocate unit away from source of interference.
No background music	Check background music equipment and wiring.
	Adjust BGM level knob.
No messages	May be in time interval – check option select switches 1-4. Output A has very long time intervals of 10, 15, or 20 minutes between messages.
	Adjust output level A & B knobs.
	Make sure unit is in run mode and not setup or diagnostics mode.
	Check PA system or speakers.
	Make sure messages are selected for play.
Tape drawer won't open	If the drawer doesn't open when you press the eject button, press eject again.
Tape stuck in deck or deck is "eating" tapes	Never eject tape during download. Follow proper tape load procedure. **To remove stuck tape**: Turn power off, wait 10 seconds, turn power on. Wait for deck to disengage play head before ejecting.
When adjusting the output level, the background music level also changes	The output level knob adjusts the background music level at the same time as it adjusts the voice message level. Adjust both knobs until the combined message and music output is to your liking.
Doesn't trigger	Check trigger wiring
No power-main power light is off	Check the power switch. (should be on) Check power pack for correct DC output voltage & current. Check power outlet to make sure it is not controlled by a switch.

Problem or Indication	Possible Cause and Solution
Main Power light flashes slowly	Invalid operation: Wrong option switch settings. Refer to option switch settings on pages 11&12.

Table 11 - Troubleshooting

FCC Notice

WARNING: This equipment has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference when this equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his/her own expense.

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la Class A prescrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.

Limited Warranty

TERMS: Nel-Tech warrants to the original purchaser ("Buyer") that the Product sold is free from defects in material and workmanship at the time of purchase. The warranty extends five (5) years from the date of original purchase and covers parts and labor. Buyer must provide written notice to Nel-Tech within the warranty period of any defective part or conditions. If the defect is not the result of improper use, service, maintenance or installation, and if the equipment has not been otherwise damaged or modified after shipment, Nel-Tech or its authorized representative shall either replace or repair the defective Product at Nel-Tech's option. No credit shall be allowed for work performed by Buyer or unauthorized parties. Out-of-warranty repairs will be invoiced at the current Nel-Tech hourly rate plus the cost of parts, shipping and handling. IN THE EVENT THAT THE PRODUCT SERIAL NUMBER IS MISSING OR HAS BEEN TAMPERED WITH IN ANY WAY, THE FOREGOING WARRANTY IS VOID AND WITHOUT EFFECT AND NEL-TECH SHALL HAVE NO LIABILITY WHATSOEVER ON ACCOUNT OF DEFECTS TO SUCH PRODUCT.

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REPAIRING OR REPLACING PRODUCT: Buyer may obtain the repair or replacement of any eligible part or equipment covered under this warranty through Nel-Tech only. Buyer is responsible for all shipping and handling charges in connection with the performance of this warranty. Products returned to Nel-Tech must be securely packaged to prevent damage in transit, freight prepaid, and insured for replacement value. A return authorization number assigned by Nel-Tech must be clearly marked on the outside of the shipping container. Proof of purchase must accompany shipment. Items delivered to Nel-Tech without a return authorization clearly marked on the outside of the shipping container, and/or without proof of purchase will be refused. Please contact Nel-Tech at the address and phone number below to receive a return authorization number and to arrange for the repair or replacement of a flawed part covered by this warranty. Please indicate the Product's serial number in all correspondence. an authorization number will not be issued in the absence of a serial number. Nel-Tech Labs, Inc., 4 Ash Street Extension, Derry, NH 03038, Phone: (603) 425-1096.

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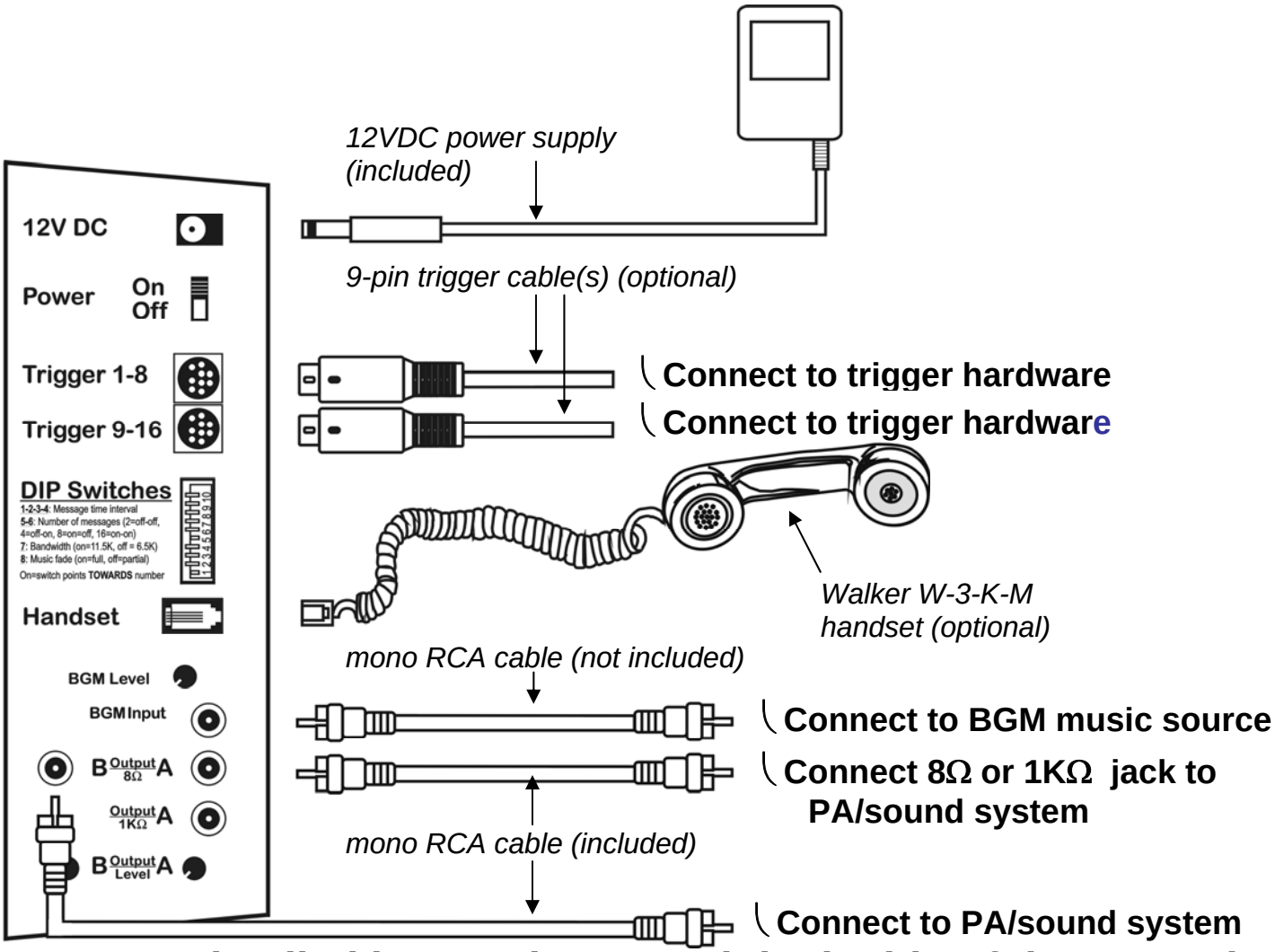
QUICK INSTALL INSTRUCTIONS



For more detailed instructions, read the inside of the manual.

1. Consult message length tables on page 10 if needed. Set option (DIP) switches:
   --Time interval, switches 1-2-3-4 (table 4, page 12)
   --Number of messages, switches 5-6 (table 5, page 13)
   --Bandwidth, switch 7 (off=6.5KHz, on=11.5KHz)
   --Background music fade level, switch 8 (off=full fade, on=partial fade)
   Note: A switch is on when it is pointing towards the switch numbers and off when it is pointing away from the switch numbers.

2. Connect the power supply, background music source, and both output channels to the PA/sound system as shown above. Connect optional trigger cables and handset, if applicable.

3. Turn the power switch on. Press the eject button on front of the SoundBrick to open the motorized tape drawer. Insert the cassette into the tape drawer, audio side facing front, then press the eject button, or momentarily push the drawer to close.

4. Loading of tape messages occurs automatically. After tape load, message playback begins automatically. See page 17 for handset recording instructions if desired.